DOCUMENT RESUME

ED 173 759 CS 004 899

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TITLE Pitfalls in the Use of Readability Formulas by Classroom Teachers.
PUB DATE Aug 76
NOTE 6p.; Paper presented at the Annual Meeting of the World Congress on Reading (6th, Singapore, August 17-19, 1976)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Elementary Secondary Education; Evaluation Methods; *Predictive Measurement; *Readability Formulas; *Reading Comprehension; Reading Instruction

ABSTRACT

Among the problems of using readability formulas in education are: reporting standardized scores as grade levels is often meaningless since in a single grade classroom there may be children reading two or three grades above or below grade placement; social mobility, busing policies, and changed patterns of living have increased the heterogeneity of classrooms; and such formulas do not measure motivation. In addition, readability formulas tend to measure the number of multisyllabic words, the length of sentences, whether the sentences are complex or simple, and the percentage of familiar and unfamiliar words while paying little attention to the author's style. Such obstacles to understanding as figurative language, short but abstract words, and specialized vocabulary also are not measured by readability formulas. As a general rule, readability formulas are best used to get a general idea concerning the type of person who might be able to read and understand a given article or story but it is dangerous to use them exclusively to match a pupil with a story or book. (TJ)

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Delivered at World Congress on Reading, Singapore, August, 1976.

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ED173759

Pitfalls in the Use of Readability Formulas by Classroom Teachers

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The history of the development and use of readability formulas is long and involved. The typical classroom teacher who is familiar with the use of the formulae for selecting educational texts and reading books to match with the reading achievements of her pupils, usually is unaware of the fact that many of the early developments were by editors and publishers who were interested in helping their writers to write more effective articles for their targeted audiences. Publishers also were interested in having their writers improve their styles so as to attract more readers and hence to enhance the sales of their books and journals. Similarly, industry and government have sought to improve communication among employers, by teaching management and others to improve the writing of their directives, regulations, and policies. One important factor in the use made by editors and publishers or by government and industry was that in each case the characteristics and attributes of the targeted population were known. Thus the publishers of well-known magazines have profiles on the income, social class, education, and other biographical and social data about their readers. The management of a governmental agency or a business corporation also has a wealth of data available about its employees.

The problems of using readability formulae in education are somewhat different. Although many teachers like to use the concept of "grade level"

CS004 899

in describing reading achievement it actually is a meaningless term. Reading specialists long have recognized that test norms which report standardized scores as grade levels more often than not are meaningless. In a single intermediate grade classroom there typically can be found children who read two or three grade levels above or below grade placement. In certain schools the typical reading scores will be considerably above the norm while in others they will typically be below the norm. In the United States of America social mobility, busing policies, and changed patterns of living have increased the heterogeneity of classrooms. As a result, the grade levels in reading achievement tend to become more myth than reality. Attempts to match a class or any group of pupils with books by the use of a readability formula are probably doomed to failure.

Most teachers, of course, already realize that readability formulae do not work well when the effort is to match a class with a book. But what about the use of the formulae for pairing an individual child with a book? Betts (1946), it may be recalled, established criteria for his reading levels: a basal level described as the highest level at which an individual can read and satisfy all of the criteria for desirable reading behavior in silent and oral reading; an instructional level at which instruction can be given to satisfy the learner's needs; and a frustration level that is so difficult that the pupil cannot comprehend the printed words. Betts established criteria for each level and this technique has been widely utilized. The Betts technique, of course, has the drawback of not measuring pupil motivation. The writer's son, when a young boy, was keenly interested in snakes and turtles. Fortunately, we lived in an area where they were plentiful. Jack, who was not an avid reader, would spend hours studying a field book on

herpetology. The manual was written for college students and trained scientists. By any criteria it should have been frustrating because of the vocabulary and complex sentence structure. It never was because of Jack's interest in identifying the specimens he had captured and because of his desire to know more about them. All teachers recognize the importance of motivation in learning. All have seen similar situations where a child who has high motivation reads with understanding books that even more competent readers cannot or will not. Readability formulae do not adequately measure interest and motivation.

Readability formulae tend to measure the number of multi-syllabic words, the length of sentences, and whether the sentences are complex or simple, and the percentage of familiar and unfamiliar words. Typically the formulae pay little attention to the writer's style. In literary works the student may encounter figurative language, e. g., metaphors, hyperboles, etc. Will these be easily read and understood or not? Readability formulae are not likely to tell us. Again, in the United States, children of all social classes are enrolled in schools. In recent years, serious attempts have been made to provide literary works and basal readers that reflect the multi-ethnic and varying social classes of our nation. The various styles of writers and specialized vocabulary have caused problems to children of different backgrounds from that of the writers. Readability formulae unfortunately do not reveal these differences.

One also could repeat the many criticisms that others have made concerning readability formulae. Some short one and two syllable words are more abstract and difficult to understand than are some polysyllabic words. Scientists throughout the world currently are trying to define <u>life</u> and <u>death</u>. Some writers who employ short, simple sentences are more difficult to understand than those who employ long compound and complex sentences.

Many literary critics argue that varying sentence length is best, but what proportions should be used? Many teachers of literature advocate personal criteria for judging literary merit as opposed to those of an earlier generation, who tried to impose guidelines to aid in judging literary merit.

Finally, it should be stressed that anytime measures are used to make judgments which concern a single person, it is essential that the measure possess maximum reliability and validity. When a teacher utilizes the typical readability formula to match a pupil with a given text or supplementary reader, he or she is displaying great faith in the reliability and validity of the formula. Most measurement experts do not share this faith. Even those who have developed and who habitually employ readability formulae urge caution in their use. The readability formulae probably are valuable when used to get a general idea concerning the type of person who might be able to read and understand a given article or story. It is dangerous, however, to rely on them as the major means for matching pupil with story or book. Rather the teacher's knowledge of his or her pupil should be used to try out and observe a pupil's reaction to a given work. Does he seem intrigued by the title? Does he look it over eagerly? If asked, can he read sample passages fluently and with meaning? Finally, if asked does he say he wants to read the story or book? Would most of us not have more faith in the validity of this type of matching of a book and a pupil than in the dull, mechanical use of a reading test matched with a readability formula? In addition, most of us can recall a time when a favorite teacher told us that she had picked out a book which she thought we'd like. Remember how pleased we were with the thought that she liked

us well enough to remember us and to want to share a book with us? I remember several such cases in my own school days. I doubt if matching me with a test or formula would generate the same warm feeling or desire to prove the teacher was right and I could read the book and like it!

Reference

E. A. Betts. The foundations of reading. New York: American Book Company, 1949.